

I claim:

- A 1. A rejuvenating ~~and/or~~ cleaning composition for a catalyst of a vehicle catalytic converter, comprising at least one hydrocarbon source and at least one oxygen donor.
- A 2. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 1 wherein said composition generates an organic acid vapour on combustion.
- A 3. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 2, wherein the organic acid vapour includes a carboxylic acid vapour.
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- A 4. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 1, wherein the oxygen donor or one of the oxygen donors and the hydrocarbon source or one of the hydrocarbon sources are one and the same compound.
- A 5. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 1, including one or more organic solvents as hydrocarbon source ~~and/or~~ oxygen donor.
- A 6. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents comprise include aliphatic alcohols, ketones, aromatic hydrocarbons and/or aliphatic hydrocarbons.
- A 7. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents comprise include isopropyl alcohol.
- A 8. ~~The rejuvenating or~~ A rejuvenating ~~and/or~~ cleaning composition as claimed in claim 5, wherein the one or more organic solvents

include acetone.

A 9. The rejuvenating or
A 5 A rejuvenating and/or cleaning composition as claimed
in claim 5, wherein the one or more organic solvents
comprise
A 5 include xylene.

A Sub 10. The rejuvenating or
B' 10 A rejuvenating and/or cleaning composition as claimed
in claim 5, wherein the one or more organic solvents
comprise
A 10 include isopropyl alcohol, acetone and xylene.

A 10. The rejuvenating or
A 11. A rejuvenating and/or cleaning composition as claimed
in claim 5, wherein the one or more organic solvents
comprise
A 11 include alkanes, paraffin, kerosene or
A 11 include isopropyl alcohol, acetone, xylene and lamp oil.

A 15. 12. A rejuvenating and/or cleaning composition as claimed
in claim 5, wherein the one or more organic solvents are
selected from isopropyl alcohol, acetone, xylene and
paraffin.

A Sub 20. The rejuvenating or
A 13. A rejuvenating and/or cleaning composition as claimed
in any one of the preceding claims comprising isopropyl
alcohol, acetone, xylene and paraffin.

A 14. The rejuvenating or
A 25. 14. A rejuvenating and/or cleaning composition as claimed
in claim 13, comprising 10-40 wt% isopropyl alcohol, 10-40
wt% acetone, 35-65 wt% xylene and 5-15 wt% paraffin.

A Sub 20. The rejuvenating or
B' 15. A rejuvenating and/or cleaning composition as claimed
in claim 13, comprising 15-25 wt% isopropyl alcohol, 15-25
wt% acetone, 45-55 wt% xylene and 7-12 wt% paraffin.

A Sub 20. The rejuvenating or
A 35. 16. A rejuvenating and/or cleaning composition as claimed
in any one of the preceding claims, comprising one or more
trace elements selected from Sr, Bi, Cd, Ba, Ni, Mn, Fe,
Na, Zn, Al, Ca, Cu, Pb, Co, K, Cr, Mg, As, Sn, Sb, V, Ti,

Be, Si, P, W, and Mo.

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17. ~~The rejuvenating and/or cleaning composition as claimed in claim 16, wherein those trace elements which are present are each present in an amount of \pm 30% of the figures shown for the respective element: Sr (0.01ppm), Bi (0.05ppm), Cd (0.01ppm), Ba (0.01ppm), Ni (0.07ppm), Mn (0.05ppm), Fe (0.16ppm), Na (4.03ppm), Zn (0.05ppm), Al (0.19ppm), Ca (0.14ppm), Cu (0.02ppm), Pb (0.06ppm), Co (0.01ppm), K (15.59ppm) Cr (0.01ppm), Mg (0.05ppm), As (0.05ppm), Sn (0.34ppm), Sb (0.10ppm), V (0.07ppm), Ti (0.01ppm), Be (0.01ppm), Si (0.39ppm), P (0.17ppm), W (0.14ppm), and Mo (0.01ppm).~~

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15. 18. The use of a rejuvenating ^{or} and/or cleaning composition as defined in claim 1 to rejuvenate and/or clean a catalyst in a vehicle catalytic converter, in situ, in a vehicle i.e. without removal of the catalyst from the vehicle.

20. 19. A method of rejuvenating ^{or} and/or cleaning a catalyst in a vehicle catalytic converter, in situ, in a vehicle i.e. without removal of the catalyst from the vehicle, said method comprising:

25. (i) bringing the catalytic converter up to working temperature; and then
 (ii) passing a rejuvenating and/or cleaning composition as defined in claim 1 into an engine of the vehicle whilst running the engine at idle.

30. 20. A method as claimed in claim 19, wherein the rejuvenating and/or cleaning composition is passed into the vehicle engine under pressure.

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35. 21. A method as claimed in claim 19, the method further

comprising:

- (i) bringing an engine of the vehicle to working temperature;
 - 5 (ii) disconnecting the vehicle's fuel line from the engine;
 - (iii) connecting the engine to a means for feeding ^{the} ~~a rejuvenating and/or cleaning~~ composition thereto; and
 - 10 (iv) feeding the ~~cleaning~~ composition into the engine whilst the engine is running at a temperature high enough to effect cleaning of the catalyst.

(42) A method of rejuvenating and/or cleaning a catalyst of a vehicle catalytic converter without removal of the catalyst from the vehicle, the vehicle having an engine and a fuel tank, said method comprising the steps of:

- (i) introducing an amount of rejuvenating and/or cleaning composition into the fuel tank, said tank already containing a quantity of fuel; and then

(ii) running the engine of the vehicle to effect cleaning of the catalyst.

23. A method as claimed in claim 21, wherein the amount
of composition added is predetermined by the quantity of
fuel contained in the tank, and wherein the amount of
composition added is in the range of 0.5 to 0.75 litres
per 30 litres of fuel.

24.. A method as claimed in claim 21, wherein the vehicle is run at a temperature of between 60 and 90°C.

30 25. A method as claimed in claim 21, wherein the
rejuvenating and/or cleaning composition is as defined in
claim 1.

35 26. A method as claimed in claim 25, wherein the

[rejuvenating and/or cleaning composition is combustible.

27. A method as claimed in claim 25, wherein the rejuvenating and/or cleaning composition is as defined in 5 claims 1.

28. A method as claimed in claim 25, wherein the vehicle is run at a temperature of between 60 and 90°C.

A *SUB* 10 29. A method as claimed in claim 25, wherein the rejuvenating and/or cleaning composition is fed into the injection system, through the engine, through the catalytic converter and out through the exhaust system into the atmosphere.

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